

## Math 155 — Epidemiology — Prof. Kaplan

### QALY Methodology

### In-Class Activity

#### Problem 1

Discuss the following priority rating of health services (from the *Economics of Health Care* reading).

1. Treatments for children with life-threatening illnesses.
2. Special care and pain relief for people who are dying.
3. Preventive screening services and immunizations.
4. Surgery such as hip replacements to help people carry out everyday tasks.
5. District nursing and community services/care at home.
6. Psychiatric services for people with mental illnesses.
7. High technology surgery, organ transplants and procedures which treat life threatening conditions.
8. Health promotion/education services to help people lead healthy lives.
9. Intensive care for premature babies who weigh less than 680g with only a slight chance of survival.
10. Long stay hospital care for elderly people.
11. Treatment for infertility.
12. Treatment for people aged 75 and over with life threatening illness.

#### Questions for discussion:

- Do you agree with the priority rating? How would you re-arrange it? Does your group agree? If not, what are the sources of disagreement?
- What criteria do you use to decide on prioritization? In answering this, you might want to focus on a few pairs, e.g., 9 versus 11, or 5 versus 10, or 2 versus 12.

One possible way to think about prioritization is to imagine that you had exactly 12 people, each of whom required treatment for exactly one of the items listed above. To establish the priority of the items, put the 12 people in order from most pressing to least.

Of course the treatments might cost different amounts of money. Would this influence your prioritization?

**Task:** Once you have sorted out a prioritization, decide on a policy process to determine how much money to spend on each one. That is, what would you look at to determine whether enough money is being spent to honor the prioritization?

## Part II: Valuing a Year of Life

Fill in the matrix below, assigning a score for “quality of life” to each of the situations.

“The term distress is an attempt to capture both the physical and mental effects of being ill. This is very subjective but severe distress might mean considerable, continuous physical pain with perhaps a high level of anxiety and fear.”

Disability	Distress Level			
	None	Mild	Moderate	Severe
No disability	1.000			
Slight social disability				
Severe social disability and/or slight impairment of performance at work. Able to do all housework except very heavy tasks.				
Choice of work or performance at work very severely limited. Housewives and old people able to do light housework only but able to go out shopping.				
Unable to undertake any paid employment. Unable to continue any education. Old people confined to home except for escorted outings and short walks and unable to do shopping. Housewives able only to perform a few simple tasks.				
Confined to chair or to wheelchair or able to move around in the house only with support from an assistant.				
Confined to bed				
Unconscious				

### Questions:

- Do you agree with the ordering of the disability categories? Should the “Quality” assigned decrease as you go down the rows of the table?
- There are two dimensions in the table: Disability and Distress. Are there other dimensions you would add?
- Implicit in the idea of a Quality Adjusted Life Year is that “duration” is an important issue: that helping a young person is substantially more valuable than helping an old person. Do you agree?
- What other functional disabilities (that is, inability to perform certain tasks) would you include in the rating of disabilities? Examples: inability to drive, incontinence, ...